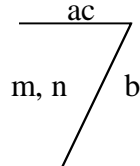


Chapter 8 – Factoring TrinomialsWorksheet 8.5: Factoring $x^2 + bx + c$

When factoring trinomials (polynomials of 3 terms) of the form $x^2 + bx + c$, one method to use is the

“ac 7 b”-method:



$$x^2 + bx + c = (x + m)(x + n)$$

where $mn = c$ and $m + n = b$ (Find factors of “c” that add up to “b”)

Steps: **1)** Remember to factor out a **GCF** if able (Happens occasionally if $a \neq 1$)

2) Write: $= (x \quad)(x \quad)$

3) Use the “ac 7 b”-method. Identify a, b, and c if necessary to find m & n. Pay attention to your signs.

4) Check your answers with FOIL. The simplified result should be the same as the original trinomial.

For Questions 1 – 10, factor each trinomial completely.

1) $x^2 + 11x + 30$

2) $n^2 - 11n + 10$

3) $m^2 + m - 90$

4) $n^2 + 4n - 12$

5) $2n^2 + 6n - 108$

6) $b^2 + 16b + 64$

7) $5n^2 + 10n + 20$

8) $n^2 - 10n + 9$

9) $b^2 + 8b + 7$

10) $a^2 - a - 90$

11) Explain why the trinomial $x^2 - 4x + 24$ is not factorable.